

Claim 3 (amended). The method of claim 1 in which the step of stabilizing includes:

initially heating the precursor fiber until reaching a heating chamber temperature of between approximately 174 and 185 degrees Celsius;

holding the heating chamber at this temperature for approximately 5 minutes until the material begins to stabilize;

after the precursor material begins to stabilize, raising the heating chamber temperature approximately 1.7-2.8 degrees Celsius per minute to approximately 204 degrees Celsius by increasing the temperature of the heated air being blown into the heating chamber; then

gradually raising the heating chamber temperature from approximately 204 degrees Celsius to approximately 227 to 232 degrees Celsius by increasing the temperature of the heated air being blown into the heating chamber at a rate sufficient for stabilization but insufficient for carbonization; and

the step of carbonizing includes:

quickly raising the heating chamber temperature to approximately 399 degrees Celsius by increasing the temperature of the air being introduced into the heating chamber at a rate that will carbonize the fiber.

Claim 8 (amended). A method for making carbon fibers, the method including the steps of:

providing a precursor fiber;

providing a furnace configured to heat the fiber for both stabilization and carbonization of the fiber;

stabilizing and carbonizing the fiber in a single continuous process that includes drawing the fiber continuously through the furnace by engaging and applying a continuous pulling force to the fiber from outside the furnace.

Claim 10 (amended). The method of claim 9 in which the step of stabilizing the precursor fiber includes: